

VT820

12U AdvancedTCA Shelf, 14 Slot



VT820

Key Features

- 14 Slot Rugged ATCA Shelf
- 12U x 19" wide x 23" deep
- Conforms to PICMG 3.0 specification Rev.3.0
- Meets MIL-STD-810F for shock and vibration
- Meets MIL-STD-461E for EMI
- Fabric and Base Interface with Dual Star interconnect
- Split power distribution (odd slots on A1/B1, even slots on A2/B2)
- Front to back cooling
- Airflow baffle plate provision
- Bussed IPMI
- Customised rear I/O (BACC MIL-26500 connectors)

Benefits

- Aluminum design to reduce weight for SWaP
- 4 to 1 strength to weight ratio
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company

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VT820

The VT820 is a 14 slot ATCA rugged Shelf which conforms to the PICMG 3.0 specification. The Shelf is a 12U, 19" rack mountable form factor compliant to EIA310.

The VT820 was specifically designed for rugged applications in harsh environments such as temperature extremes, humidity, shock and vibration where commercial offerings cannot be deployed.

The VT820 can handle up to 160 lbs of payload weight which includes Front and Rear Transition Modules, redundant power supplies and I/O connectors and cables

The VT820 was designed with a unique airflow baffle provision integrated into the Front and RTM card guides to enable the system integrator to balance impedance between slots

Power Supply

The VT820 has an option for two power supplies. The power modules can be AC universal (110-240 V AC, frequency from 47-63 Hz) or DC 270 V or -36 to -75 V. Each power module outputs 3000 W.



Figure 1: VT820 Front View (without Cover)



Figure 2: VT820 Front View (with cover)

Features

The VT820 is an ATCA 14 slot Shelf (Figure 3) which conforms to the PICMG 3.0 specification. Typical commercial ATCA product offerings are designed to the Telecordia GR-63-CORE, NEBS environmental requirements intended for telecommunication applications. The VT820 was specifically designed to maintain the PICMG 3.0 performance requirements while being deployed in harsh environments typical in industrial and military applications which exceed the NEBS environmental capability. The VT820 was designed specifically to meet the environmental requirements defined in MIL-STD-810G and MIL-STD-167 as well as EMI requirements defined in MIL-STD-461E for deployment in an intended military application.

The VT820 Shelf construction is composed of light-weight aluminum structure with an optimal 4:1 strength-to weight ratio to support a 160 lbs payload inclusive of electronic modules, power supplies and internal I/O cables. The design includes high strength card guides to support electronic payloads in excess of the PICMG 3.0 sub rack requirements of 70.5 lbs front module payload while being deployed in severe vibration, shock and acceleration environments encountered in military applications.

The VT820 also includes a unique airflow balance baffle provision integral to the front and RTM card guides. Typical sub-rack payload configurations may be composed of a mixture of high-impedance and low-impedance Front and Rear Transition Module which tend to have uneven airflow through the slots with air from high impedance slots often diverted to neighbouring low impedance slots. In order to counteract this effect, the card guides were designed with an integral baffle provision to enable system integrators to balance the airflow for optimal performance within the Shelf.

Slots

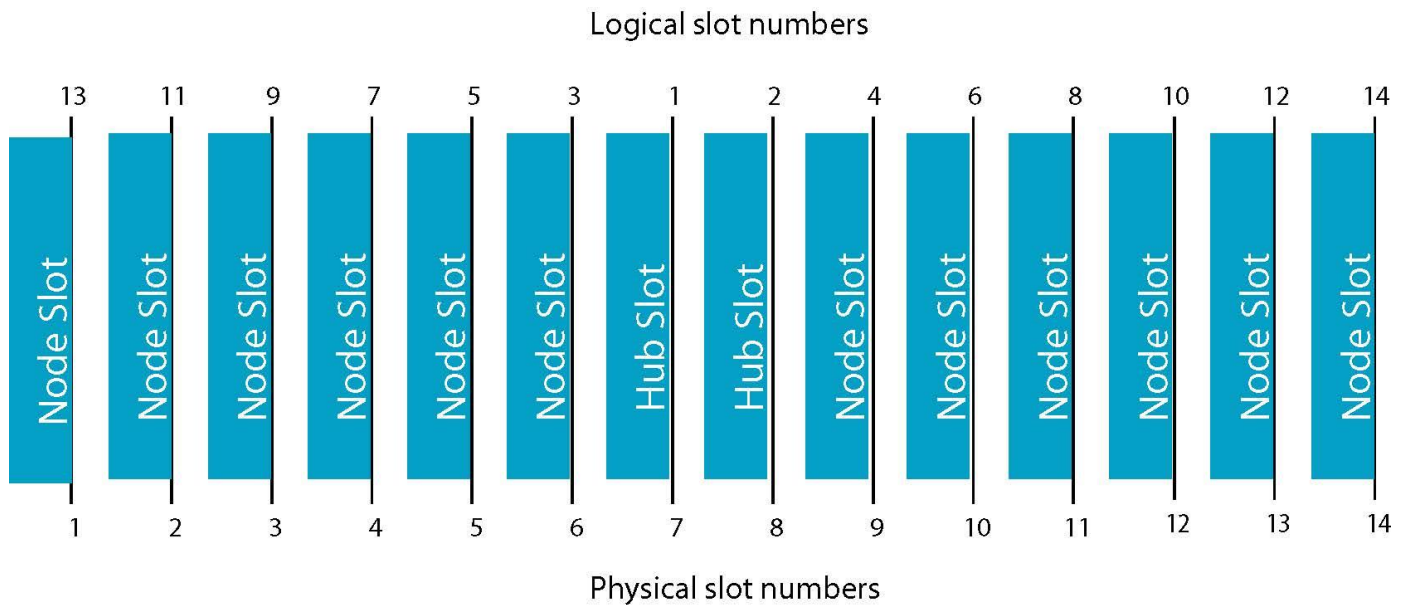


Figure 3: VT820 Shelf Slots

Cooling and Temperature Sensors

The VT820 cooling is front to back (Figure 4).

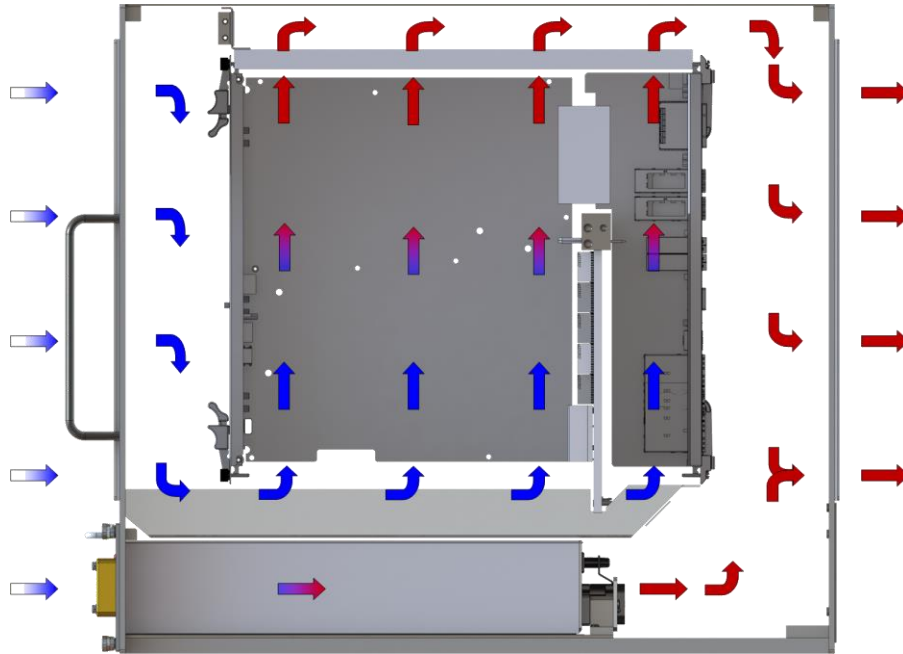


Figure 4: VT820 Cooling Airflow

Shelf Input/Output

The VT820 provides I/O from rear with rectangular BACC style connectors (MIL-26500) to optimize available signal pin-out (Figure 5). The rear I/O pin-out definition are customizable to specific application requirement. Alternate I/O connectors may also be utilized upon request.

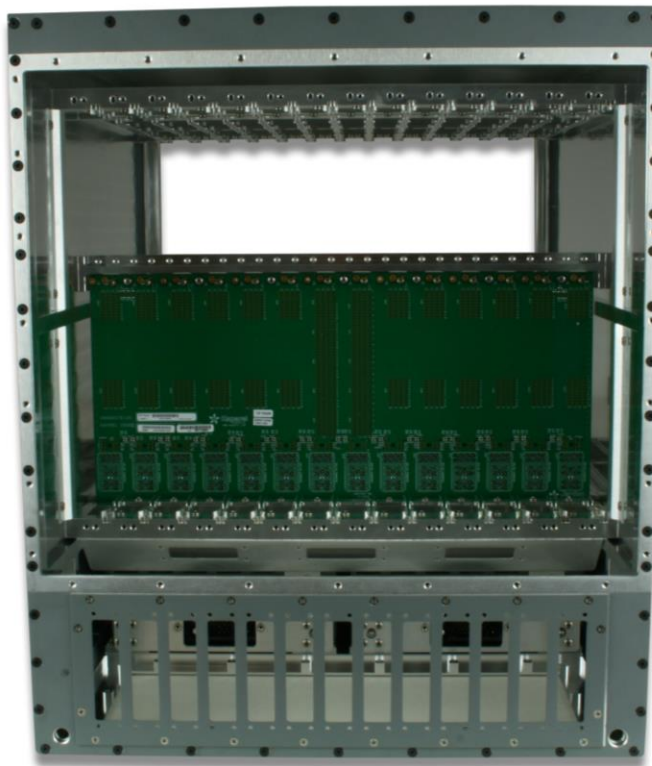


Figure 5: VT820 Rear View (without cover)

Specifications

Architecture	
Physical	Dimensions Height: 12U Width: 19" Depth: 23"
Type	ATCA Shelf 14 ATCA Modules
Standards	
ATCA	Type PICMG 3.0 Rev 3.0
Configuration	
Environmental	Temperature Operating temperature: -40° to 70°C, See environmental spec sheet Storage Temperature: -55° to +85°C
	Vibration MIL-STD-810G, Method 514.6 Procedure I
	Shock MIL-STD-810G, Method 516.6 Procedure I 40G's, 11ms Half Sine Pulse
	Acceleration MIL-STD-810G, Method 513.6 Procedure II Operational MIL-STD-810G, Method 513.6 Procedure III Crash
	Humidity MIL-STD-810G, Method 507.5 Procedure II Aggravated Humidity
	EMI MIL-STD-461E
Other	
MTBF	MIL Hand book 217-F@ TBD hrs
Certifications	Designed to meet FCC, CE and UL certifications, where applicable
Standards	VadaTech is certified to both the ISO9001:2000 and AS9100B:2004 standards
Warranty	Two (2) years

INTEGRATION SERVICES AND APPLICATION-READY PLATFORMS

VadaTech has a full ecosystem of OpenVPX, ATCA and MTCA products including chassis platforms, shelf managers, AMC modules, Switch and Payload Boards, Rear Transition Modules (RTMs), Power Modules, and more. The company also offers integration services as well as pre-configured Application-Ready Platforms. Please contact VadaTech Sales for more information.

Ordering Options

VT820 – A00-000-00J

A = Power Supply (3000 W)		
0 = No Power Supply 1 = AC single 2 = AC dual 3 = 270 V DC single 4 = 270 V DC dual 5 = 36 V DC to -75 V DC single 6 = 36 V DC to -75 V DC dual 7 = Reserved		
		J = Temperature and Conformal Coating
		0 = No coating 1 = Humiseal 1A33 Polyurethane 2 = Humiseal 1B31 Acrylic

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